

## Communication Protocol for the SP-10D:

1. RS-232 using NULL MODEM at BD of 9600.
2. Command structure is 4 bytes.

First byte options:

	DEC	HEX	
1.	128	80	RESET VIDEO
2.	160	A0	READ PARAMETER
3.	161	A1	WRITE PARAMETER
4.	162	A2	RECALL
5.	163	A3	STORE
6.	189	BD	IDENTIFY MACHINE
7.	33	21	Set (for the rest of commands)

Second byte is the command type.  
Third byte is the parameter value.

Note:

1. When working in HEX, add 80 to the values in the table.
2. When working in DEC, add 128 to the values in the table.
3. All values in the table are in DEC.

Byte 2	Command Description	Byte 3 (parameter value)
0	INPUT FORMAT	0 - CV 1 - YC 2 - YUV 3 - RGB/S 4 - SDI
1	INPUT_STANDARD	0 - PAL B 1 - PAL N 2 - PAL M 3 - NT 3 4 - NT 4 5 - SEC 6 - AUTO (READ 19 - INPUT_STANDARD_AUTO)
2	SPLITTER	-100 - +100
3	SHARP_H	0 - 15
4	SHARP_V	0 - 15
5	CONTRAST	-100 - +100
6	BRIGHTNESS	-100 - +100
7	VIDEO_GAIN	-100 - +100
8	H_SHIFT	-16 - +15

9	V_SHIFT	-1 - +1
10	Y	-100 - +100
11	U	-100 - +100
12	V	-100 - +100
13	GREEN	-100 - +100
14	BLUE	-100 - +100
15	RED	-100 - +100
16	COLOR	-100 - +100
17	HUE	-100 - +100
18	COLOR_SPACE	0 - OFF 1 - YUV 2 - RGB
19	INPUT_STANDARD_AUTO	(READ ONLY) 0 - PAL B 1 - PAL N 2 - PAL M 3 - NT 3 4 - NT 4 5 - SEC

-----GLOBAL-----

20	OUTPUT FORMAT	0 - YUV 1 - RGB 2 - RGBS
21	OUTPUT_STANDARD	0 - PAL B 1 - PAL N 2 - PAL M 3 - NT 3 4 - NT 4 5 - SEC
22	GENLOCK	0 - OFF 1 - ON
23	PANEL_LOCK	0 - OFF 1 - ON
24	SCH	-100 - +100
24	DELAY	-100 - +100
26	FREEZE	0 - OFF 1 - ON
27	PROGRAMM	0 - 15 (read only)
28	GENLOCK_STAT	(Read only) 0 - No GENLOCK 1 - GENLOCK

Byte 4 is the machine address: can be 98 or 99 (in HEX).

First byte = I  
Second byte=D  
Third byte=E

#### MACHINE TO PC:

-----MACHINE POWER-UP-----  
PC <- I = 34;D = 0;E = PROGRAMM NUMBER <- MACHINE (RECALL)  
-----PRESS OF "RECALL"-----  
PC <- I = 34;D = 0;E = PROGRAMM NUMBER <- MACHINE (RECALL)  
-----PRESS OF "STORE"-----  
PC <- I = 34;D = 0;E = PROGRAMM NUMBER <- MACHINE (RECALL)  
-----CHANGE "OUTPUT\_STANDARD"-----  
PC <- I = 34;D = 0;E = PROGRAMM NUMBER <- MACHINE (RECALL)  
-----CHANGING OTHER KEYS-----  
PC <- I = 33;D = PARAMETER NUMBER;E = PARAMETER <-  
MACHINE (PARAMETER WRITE)

#### PC TO MACHINE:

-----RESET VIDEO-----  
  
-----POWER-UP(PSEUDO)-----  
PC -> I = 0;D = 0;E = 0 -> MACHINE  
PC <- I = 0;D = 0;E = 0 <- MACHINE  
-----DEFAULT-----  
PC -> I = 0;D = 1;E = 0 -> MACHINE  
WRITE EEPROM ALL PARAMETERS - DEFAULT (ALL  
PROGRAMS),RELOAD (RESTART)  
PC <- I = 34;D = 0;E = PROGRAMM NUMBER <- MACHINE (RECALL)  
  
-----PARAMETER READ-----  
  
PC -> I = 32;D = PARAMETER NUMBER;E = 0 -> MACHINE  
PC <- I = 32;D = PARAMETER NUMBER;E = PARAMETER <-  
PARAMETER  
  
-----PARAMETER WRITE-----  
  
PC -> I = 33;D = PARAMETER NUMBER;E = PARAMETER ->  
MACHINE  
PC <- I = 33;D = PARAMETER NUMBER;E = PARAMETER <-  
MACHINE  
  
-----WRITE OUTPUT\_STANDARD-----  
  
PC -> I = 33;D = 21;E = PARAMETER -> MACHINE  
MACHINE RELOAD (RESTART)  
PC <- I = 34;D = 0;E = PROGRAMM NUMBER <- MACHINE (RECALL)

-----RECALL-----

PC -> I = 34;D = 0;E = PROGRAMM NUMBER -> MACHINE  
PC <- I = 34;D = 0;E = PROGRAMM NUMBER <- MACHINE  
PROGRAMM NUMBER - 0 = PROGRAMM 1  
PROGRAMM NUMBER - 1 = PROGRAMM 2  
.....  
PROGRAMM NUMBER - 15 = PROGRAMM 16

-----STORE-----

PC -> I = 35;D = 0;E = PROGRAMM NUMBER -> MACHINE  
PC <- I = 34;D = 0;E = PROGRAMM NUMBER <- MACHINE (RECALL)

-----IDENTIFY MACHINE-----

-----MACHINE NAME-----

PC -> I = 61;D = 1;E = 0 -> MACHINE  
PC <- I = 61;D = MACHINE NAME HIGH;E = MACHINE NAME LOW <-  
MACHINE

-----SOFTWARE VERSION-----

PC -> I = 61;D = 3;E = 0 -> MACHINE  
PC <- I = 61;D = SOFTWARE VERSION HIGH;E = SOFTWARE  
VERSION LOW <- MACHINE

Examples:

1. Select CV input format:

H21 H80 H80 H98

Unit response:

H61 H80 H80 H98

2. Reset:

H80 H80 H80 H98

3. Recall set up 1:

HA2 H80 H80 H98

DEC: 162 128 128 152

4. Store set up 2:

HA3 H80 H81 H98

DEC: 162 128 129 152